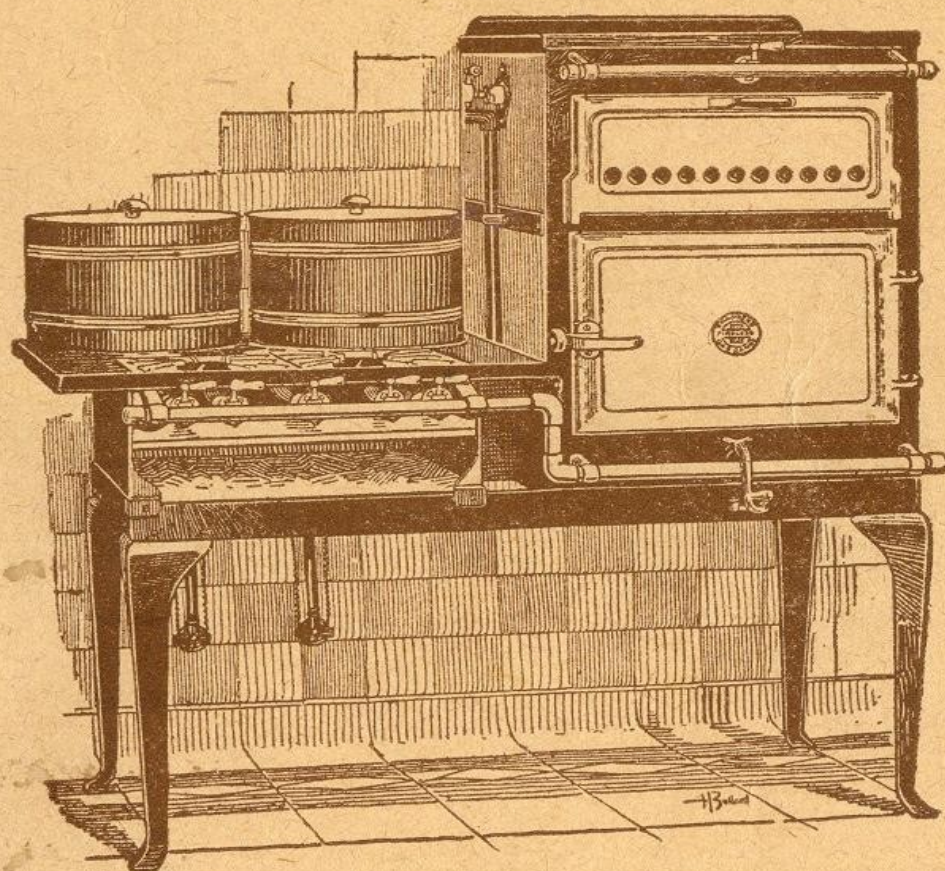


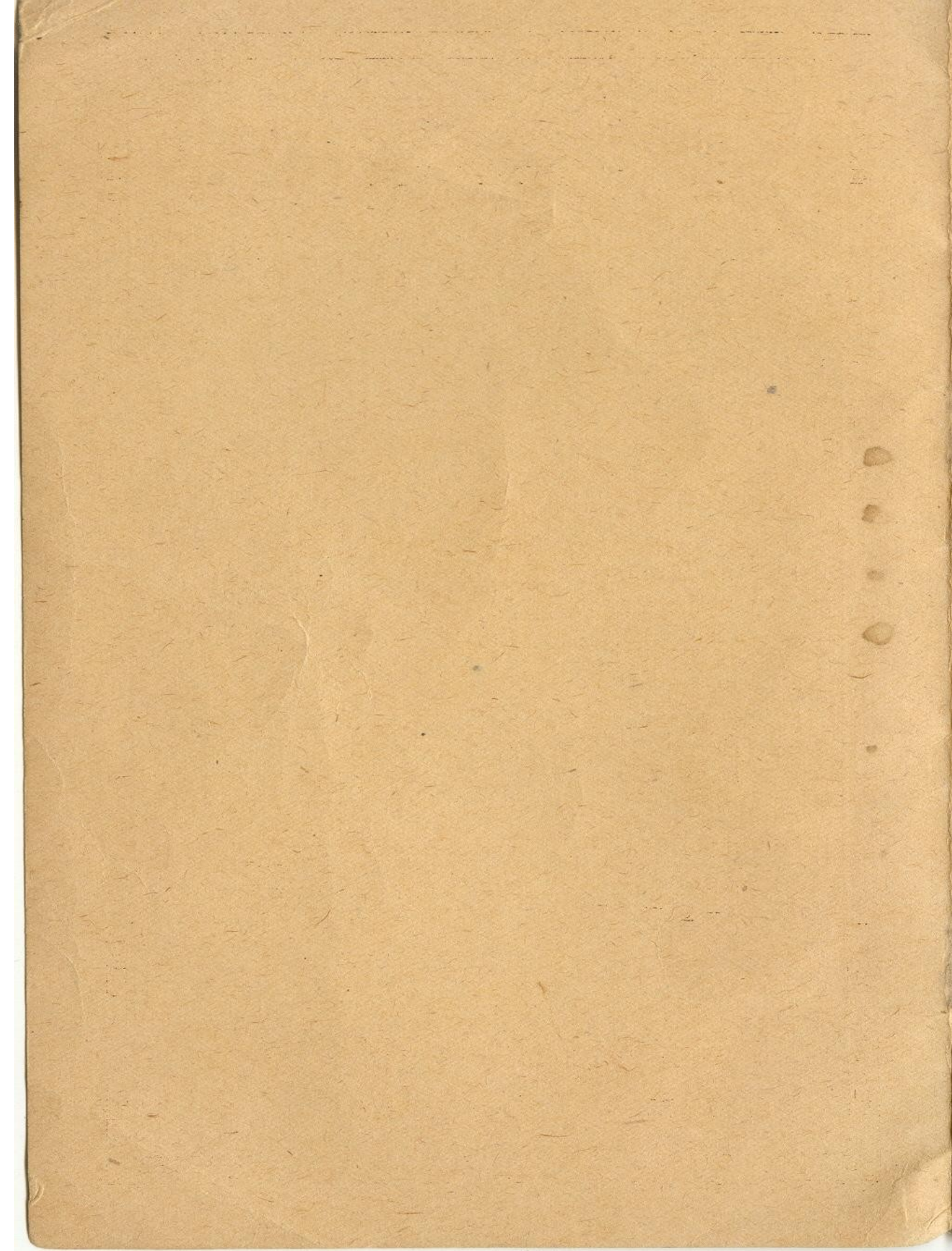
DIRECTIONS FOR INSTALLING
AND USING

Chambers Ranges



CHAMBERS MFG. COMPANY

SHELBYVILLE, INDIANA, U. S. A.



FOREWORD

In the effort to make the service of Chambers Ranges most delightful and least difficult, this Direction Book is prepared.

The *Schedule* and *General Practice Rules* (the schedule in more simplified form) are found on page 8 and page 4, respectively. These service tables are prepared to apply *not only to the 9000 Series* but to *all* Chambers Ranges.

There is nothing complicated about a Chambers Range, and best results will be obtained if as much cooking is done *fireless* as is possible.

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Installation

First see that you have all the packages your bill of lading calls for and that all parts are removed from inside of range. Reported shortages usually come from failure to observe this rule.

In removing crating, take care that all parts and pieces are removed from crate. Hoods are usually packed in ovens. On some models, there will be an extra crate with one hood. The hood rod and weight will usually be wired on the side or bottom of the crate. The weight will be found in one of the corner braces of the crate.

To avoid difficulties in carrying through door, add all attachments after range is placed in kitchen.

The hood rod should be passed through the pipe hood rod bearing which is usually shipped in its place at the back of the cooking top.

Two pulleys should be found with hood fixtures. The eye pulley should be hung by hook to back flange of top casting. The screw pulley should be screwed into the lower end of hood rod. The chain should be attached by one end-hook to the hole in bottom of hood bearing casting, threaded through both pulleys and attached to weight at other end. (See cut, page 15.)

The Automatic Hood Release should be placed in position as shown, so that when hood rod is lowered, it will catch on the hook at the offset in the hood rod. In the burner box will be found a bent piece of $\frac{5}{16}$ " round rod. The straight end of this rod should be placed through the hole at the back of the burner box. The bent end of this rod should be placed through the hole, beside the valve of the hood burner. It should be so set that when the gas cock is turned on, the stop at the back of the hood rod will catch the offset on the pipe, and when the valve is turned off, the hood release rod should release the catch at back so that hood will come down freely.

When attachments are properly installed, hang hood on rod as shown in cut.

Legs and bolts will be found in oven, or wired in crate.

Use a few drops of oil in bearings of hood rod.

The hood burners are shipped in their regular places.

CONNECT RANGE TO NO SMALLER THAN $\frac{3}{4}$ " PIPE.

The Use of the Direction Book in Cooking

THE first thing to be assured of, in operating a Chambers range, is that fireless cooking, as it is applied to the operation of a gas range, is the simplest form of cooking. There is nothing complicated about the fireless oven. It is, after all, an ordinary gas range oven, thoroughly insulated, and built to give very best results with the least possible amount of fuel. The Chambers range will save just that much fuel and time that is consistent with best results in cooking.

There are in the Direction Book **TWO PRINCIPAL SETS OF SUGGESTIONS**—the General Practice Rules, pages 4 and 5, and the Schedule, pages 8 and 9.

In the General Practice Rules will be found a simple expression of how to use a Chambers range, and in the Schedule there is both approximately correct times of operation given and a reference to the General Practice Rules.

It is well, after reading the simple rules on pages 4 and 5, to turn to the Cooking Schedule (page 8) and follow the suggestions expressed in the last column of any schedule. It will be found that conditions of the cooking will be approximately expressed by the columns in which periods of time are actually stated.

For example: Roasting a five-pound beef roast, we should place roast in oven with gas on *full* until roasting temperature is obtained; i. e., just when greases begin to fry. This will be in about five times five minutes (per pound), or twenty-five minutes, as expressed in column one of schedule applying to roasting of beef.

In the suggestions which follow in this direction book, we have attempted to strike a mean between extreme conditions which affect cooking. To lay down a positive set of rules to govern the operation of the Chambers oven, or the Chambers hood would be an impossibility. There is too much difference in the heat units contained in each cubic foot of different kinds of gas. A low grade of artificial gas, containing approximately 550 heat units per foot, would produce altogether different results than the same time and food conditions if operated with Blau gas containing 1800 heat units per cubic foot.

For this reason we ask you not to blame the range if conditions are not absolutely expressed by these suggested timing guides and schedules. Be governed by your own experience and common sense—your own cooking ideas.

General Practice Rules of Operation

Rule 1. ROASTING (Oven)

Put roast in as soon as gas is lighted. Let gas burn *full force* about twenty-five minutes. Shut off gas, closing oven damper at the same time. Leave roast in stove same length of time as in any stove, including the time above.

The time the gas is left burning is largely dependent upon volume of food to be cooked, and an infallible rule is to place the roast in a cold oven and let the gas burn *full* until the roasting point is reached, then fireless as above. A roasting temperature may easily be ascertained by the frying and sizzling of the fats and juices in the meat.

Rare roasts should be fireless a shorter time. If a roast is wanted that is well done, let it fireless a longer time.

A harder brown on the outside of a roast may be obtained by removing the lid from the roaster.

Rule 2. BAKING (Oven)

As a general rule, place food in *cold* oven as soon as gas is lighted. Let gas burn *full* until food begins to brown. Shut off gas, closing oven damper at same time. Leave food in the oven the same length of time as in any range.

a. *Bread, Loaf Cakes and Puddings* are the type of food that follows General Rule 2. Place food in oven when gas is lighted. Allow gas to burn until edges of food just begin to turn orange. A baking temperature has then been obtained, and the process may be finished fireless and without further gas in usual length of time.

b. *Biscuits, Pop-overs, Cookies* and any thin cakes are exceptions to the general rule in that they must be placed in a **VERY HOT OVEN**. Pre-heat the oven at least ten or twelve minutes before placing biscuits in, then allow the gas to burn only until food has begun to turn, then fireless. If a thick crust is desired, fireless a longer time.

c. *Angel Food*. As an exception, also, is angel food cake. This cake should be placed in a cold oven. Due to the slow rising of angel food, we advise burning the gas turned low for fifteen minutes, simply to permit the cake to rise to the top of the pan. Then turn gas on full to quickly obtain a baking temperature. Just when the edges begin to turn, fireless. Leave cake in oven usual length of time.

NOTE. Under practically all conditions when gas is on, let it burn *full*. This is about the only exception—due entirely to the very slow rising of angel food cake.

Rule 3. BOILING

As a general rule, foods cooked by boiling should be brought to a brisk boil for ten minutes under the hood, then fireless for the usual length of time, including the ten minutes above.

a. *Vegetables.* Do not cover vegetables with water. Use only enough COLD water to keep them from boiling dry during the few minutes the gas is on. Bring to brisk boil and fireless usual time.

Vegetables which require different lengths of time to cook can be started at the same time. Cook them the length of time required for the slowest one. It will not do any harm to leave them under the hood for hours.

b. *Meat, Soups or Boiled Meats* should be placed under hood with gas burning full one-third as long as it ordinarily requires to cook. Leave with gas shut off, hood down, for the remaining two-thirds of the time. When, according to this rule, it is necessary to boil such articles for an hour or more, it is well to divide this boiling time into two or more half-hour periods with several hours in between with gas off. Hams or other articles too large to be cooked under the hood can be boiled in the same way in the oven. When boiling in oven, remove racks and place kettle directly on the baffle plate or cast-iron oven bottom.

c. *Fruits and Puddings.* The general practice for boiling fruits or puddings is to let gas burn for about one-third the usual time for cooking, then fireless the remaining two-thirds of the time required to cook. The length of time required depends largely on the volume and density of the foods. The lighter fruits require, of course, a shorter period of cooking time. The same differences, due to this cause, apply to the Chambers time of cooking as in any ordinary cooking appliance.

The aroma and juices are conserved and cooked into both fruits and puddings in the fireless hood, and more tasty and delicious stewed fruits and puddings are obtained.

d. *Soups.* The general practice rule for soups is the same as above for meats. Use the gas on *full* for about one-third the usual time, and finish in usual length of time, fireless. When the quantity of gas-on time exceeds one-half hour, it is best to split it up at regular intervals between evenly divided fireless periods. Soups boiled fireless over night are, of course, most delicious, and it is good practice to allow the soups to boil a long, long time, for in the fireless hood there is no additional cost to *cook* them longer—with the gas turned off.

Rule 4. STEAMING

For steaming puddings and heavy pastries, use the hood and burn gas on full—one-third the usual time.

Helpful Hints to Chambers Users

BURNING OF GAS

In operating the fireless units of the Chambers range, it is best to follow the schedule as closely as possible, but as has been before stated, these schedules are subject to change with varying pressures and heat content of gas. Use the Chambers oven and hood like a regular gas range oven with the gas on. When your food has just begun to turn in color (and it is all right to look occasionally into your oven while gas is burning) then start your fireless operation. If you are used to watching your food in cooking, there is no reason why you should not do so with a Chambers. Peek in through a slightly opened door, and when the food has just begun to turn in color (your cooking temperature is right) then let the gas burn for a few seconds longer to recover the heat lost in opening the door, then swing your lever around and start your fireless operation.

It is always best, to insure perfect circulation through oven, to have gas burning at FULL SPEED when it is turned on.

BAKING

It takes from 10 to 20 minutes to bring the oven to a baking heat. In the schedule it is given as 15 minutes. A good method of baking is to put the bread into the oven just after lighting the fire, and at the end of about 15 minutes, peek into the oven. Just when the edges are beginning to show a tint of orange, your baking heat is obtained. Turn off the gas and your bread will cook with no further attention until the end of an hour, or forty-five minutes later.

To bake layer cakes, heat oven eight minutes previously to putting in layers, have gas on five minutes after layers are in and gas off 12 to 15 minutes. Follow same rules for cookies.

For baking biscuits which are very rapidly baked, get a good hot oven and place your biscuits in the oven; proceed with a Chambers oven as you have with the ordinary oven. The well insulated walls of the Chambers oven will make it one of the fastest ovens when used as a gas range and excellent results can be obtained in its use for cooking fast biscuits.

ROASTING

In roasting, the same as in all other methods of cooking; be guided very largely by the cooking methods you have used formerly.

To roast beef rare, perfectly and uniformly: Before placing roast in the oven let the gas burn "full on" for 15 minutes while oven door is shut and flue door is open. Then quickly place roast in the oven and close oven door immediately. Leave roast in the oven, gas burning, for three minutes for each pound of meat; then shut off gas by latching tight the flue door. After gas is out let the roast remain in the oven for ten minutes to each pound of meat—NOT LONGER. Do not open oven before the time indicated.

In cooking roast or fowl, use a covered roaster; do not use any water but place the roast or fowl in the cold oven and light the gas. Always place a fowl on its breast, not on its back.

If at the end of your roasting operation meats are not browned enough it is good policy to raise the cover of the cooking vessel or roaster and leave it in oven a few minutes with cover off to brown the outer part of a roast.

OTHER KINDS OF COOKED MEATS

To cook round, flank or chuck steaks, and other tough but wholesome meats, and make them tender and toothsome—including old chickens: For tough steaks, put bits of chopped suet or bacon, or salt pork in the skillet. Light the gas in the oven, put skillet in the oven, gas burning and shut oven door. After ten minutes open oven, put the steak in hot skillet and leave steak a few seconds to sear on the under side, then turn steak over, cover skillet with lid, push skillet and meat back into hot oven and shut oven door tight. At end of three minutes shut gas off, leave skillet and meats in the oven one hour.

To boil ham, tongue or other smoked meats under the hood, and save gas, bring to boil, then shut off gas, pull down the hood, and let meat remain two hours under hood. Then relight the gas, BRING TO A SECOND BOIL, pull hood down, shut off the gas, and let meat remain under hood, gas out, two hours or longer. This will require very little gas, but will thoroughly cook the meat and make it unusually sweet and tender.

CEREALS

Prepare in double boiler, if possible, using COLD water. Allow 35 to 40 minutes direct heat and at least two hours fireless time. Over night is not too long to fireless cereal. If cooked over night, a very few minutes of gas on a top burner in the morning will heat the cereal steaming hot, if it should not be quite hot enough to serve as taken from hood.

In cases where a small quantity of cereal is cooked, it is unreasonable to expect a small body of that kind to hold heat during a whole night. In these cases it is recommended when a double boiler is not available to use an extra vessel of water with the cereal, to introduce body into the fireless chamber and place heat units in same by this means.

AMOUNT OF WATER

For fireless cooking, do not use as much water as a recipe specifies for cooking in the old method. Usually in boiling, about one-half as much water is necessary. When roasting meats or fowls NO WATER IS NECESSARY. The meat will cook from its own natural juices.

PARBOILING

When a recipe calls for parboiling, bring food to a good brisk boil under hood, and then fireless.

If food is to be parboiled before baked, proceed to parboil, then pour off all liquid and proceed again as directed under "Baking."

COOKING SCHEDULE FOR

ROASTING

USE THE FIRELESS OVEN

FOOD	GAS ON (Direct)	FIRELESS	GENERAL PRACTICE
	Per Lb.	Per Lb.	
Beef	5 min.	20 min.	<p>Bring oven to roasting point—i. e., just when greases in meats begin to fry—start fireless and finish without fuel or attention.</p> <p>The recorded times will be fairly accurate up to five pounds. Over that weight be governed entirely by General Practice Rule 1.</p> <p>See page 4</p>
Mutton	6 min.	25 min.	
Lamb	6 min.	25 min.	
Veal	7 min.	30 min.	
Pork	8 min.	30 min.	
Goose	9 min.	35 min.	
Turkey	6 min.	25 min.	
Chicken	7 min.	30 min.	
Duck	8 min.	20 min.	
Birds	8 min.	15 min.	

BAKING

USE THE FIRELESS OVEN

FOOD	GAS ON (Direct)	FIRELESS	GENERAL PRACTICE
Bread—wheat, rye	15 min.	45 min.	<p>Place foods in cold oven. Light gas and bring them to point just when edges of baking <i>begin</i> to brown. Fireless until food has been in oven as long as required in ordinary baking—including the gas-on time above.</p> <p>IMPORTANT EXCEPTION <i>Thin Foods — Fast Oven Work.</i> Bring oven to baking temperature before placing food in oven. Proceed as above. See page 4</p>
Bread—corn meal	20 min.	50 min.	
Muffins, Gems	8 min.	10 min.	
Cake—layer	10 min.	15 min.	
Cake—loaf	25 min.	30 min.	
Cake—fruit	50 min.	3½ hours	
Pies—apple, berry	10 min.	15 min.	
Puddings, Cobblers	10 to 50 min.	3 hours	
Potatoes—Irish	20 min.	30 min.	
Potatoes—sweet	15 min.	35 min.	
Squash	15 min.	1 hour	
Beans—shelled	55 min.	3½ hours	

BOILING—MEATS

USE THE FIRELESS HOOD

FOOD	GAS ON	FIRELESS	GENERAL PRACTICE
	Per Lb.	Per Lb.	
Beef—pot roast, Irish stew, hash	7 min.	40 min.	<p>Burn gas for boiling <i>one-third</i> the usual time for cooking. Finish boiling by fireless in usual time without further fuel or attention.</p> <p>See page 5</p>
Pork—fresh	9 min.	45 min.	
Mutton	8 min.	40 min.	
Chicken—fowl	6 min.	40 min.	
Lamb	8 min.	40 min.	
Veal	9 min.		
	Boil	50 min.	
Corned Beef	1 hour	3 to 5 hours	
Ham—smoked	1½ to 2 hours	4 to 6 hours	
Tongue—smoked	1 hour	3 to 4 hours	
Tongue—fresh	1 hour	2 to 3 hours	

SOUPS

Beef, Mutton, Chicken...	30 min.	4 to 6 hours	Same as Fruits and Puddings
Bean, Bouillon, Vegetable	25 min.	3 to 4 hours	
Celery, Corn, Potato.....	Boil	30 min.	

OR CHAMBERS FIRELESS

BOILING—VEGETABLES

USE THE FIRELESS HOOD

FOOD	GAS ON (Direct)	FIRELESS	GENERAL PRACTICE
	Count this time from boiling point		
Potatoes—Irish	5 min.	25 min.	Bring food to brisk boil. Turn off gas, drop hood and finish fireless without further fuel or attention, in same time as ordinarily, including gas-on time in bringing food to boil. See page 5
Potatoes—sweet	5 min.	30 min.	
Squash	5 min.	25 min.	
Spinach	5 min.	35 min.	
Beans—shelled	25 min.	2 hours	
Peas—not canned	5 min.	25 min.	
Beans—string	5 min.	2 hours	
Corn—not canned	8 min.	1 hour	
Asparagus	Bring to boil	25 min.	
Tomatoes—fresh	Bring to boil	30 min.	
Cabbage	10 min.	55 min.	
Cauliflower	5 min.	45 min.	
Onions	5 min.	45 min.	
Beets	10 min.	50 min.	
Turnips	10 min.	55 min.	
Parsnips, per pound.....	5 min.	40 min.	
Carrots	10 min.	45 min.	
Rice—boiled	Bring to boil	30 min.	
Rice—steamed	Bring to boil	1½ hours	
Cereals (see page 14)...	5 min.	all night	

FRUITS AND PUDDINGS

Apple or Rhubarb Sauce.	Brisk boil	20 min.	Burn gas for boiling <i>one-third</i> the usual time. Finish by fireless in usual time without further fuel or attention. See page 5
Prunes, Dried Fruit.....	10 min.	3 to 4 hours	
Pears—stewed	Brisk boil	30 min.	
Apple Dumplings, boiled.	10 min.	1½ hours	
Indian Pudding, boiled...	30 min.	4 hours	

STEAMING

USE THE FIRELESS HOOD

FOOD	GAS ON	FIRELESS	Follow practice of using gas on about one-third usual time, which will approximate the times in columns two and three. Finish in usual length of time by fireless without fuel or attention. See page 5
Boston Brown Bread.....	30 min.	3 hours	
Fruit Puddings	10 to 20 min.	1½ to 3 hours	
Suet Puddings	30 min.	4 hours	
Indian Puddings, steamed	20 min.	3 hours	
Apple Dumpl'gs, steamed	15 min.	2 hours	

FRYING AND SEARING

THE OPEN BURNERS OF THE COOKING TOP

The open burners on the cooking top of Chambers ranges are to be used the same as those on any other gas range.

The giant burner, offering volume of heat, is excellent for boiling and heating large quantities of food.

BROILING

THE BROILER

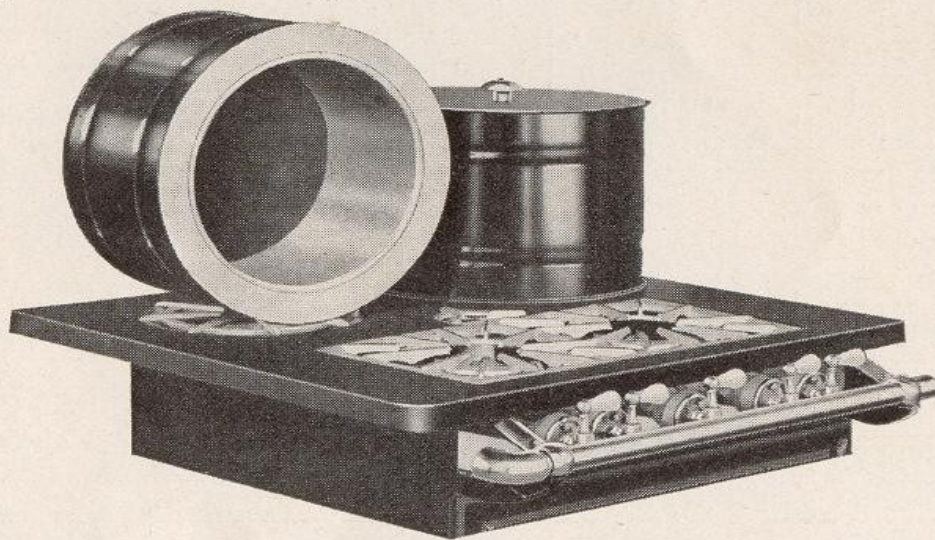
The broiler of the Chambers range may be used the same as any other gas range. This unit is ideal for toasting bread.

The Operation of the Hood

TO COOK UNDER THE HOOD

Light burner, place the kettle containing the food over the flame. Lower the hood down around the kettle as far as the automatic stop will permit it to go.

The hood should never be pushed all the way to the top of the stove when the gas is burning. After the gas is shut off it should then be pushed all the way down.

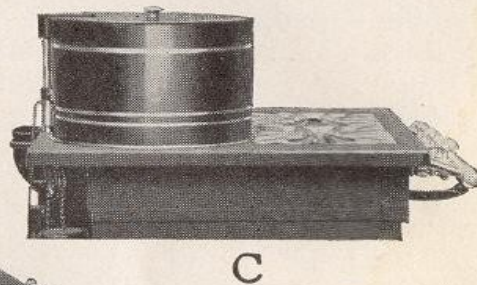
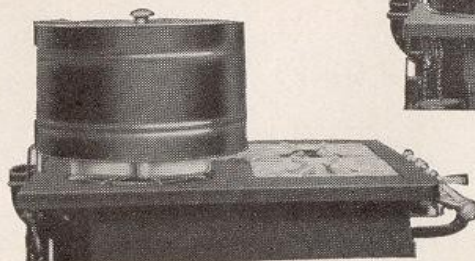
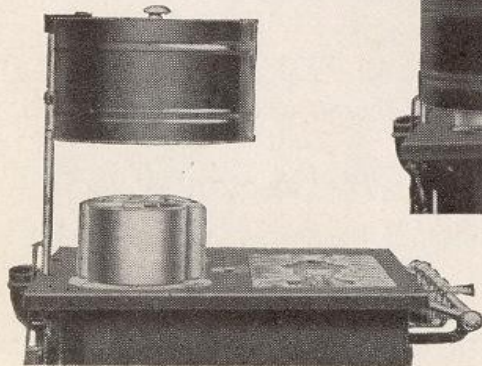


The three positions of the hood are shown below:

A—The hood at its highest point at which it may be swung out of the way. With the hood in this position, the kettle may be easily placed on the hood burner.

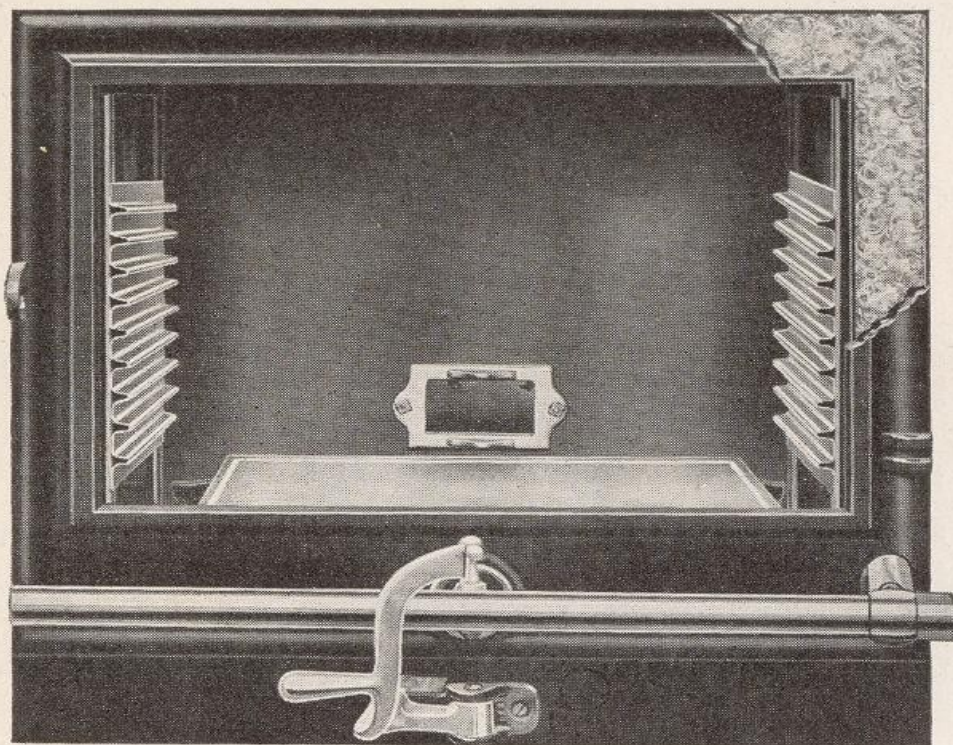
B—The “Gas On” position. When the gas is on, the hood will catch in this position, insuring plenty of air to burner.

C—When gas is turned off, push the hood to this position for fireless cooking.



The Operation of the Oven

The operation of the Chambers oven is very simple, being operated by a single control lever. The oven damper lever, which is



located just below the door, must be thrown clear to the left before gas can be ignited, thus opening both back and bottom oven dampers. This insures plenty of air for the oven burner.

By swinging the lever full to the right the dampers are closed, making the

oven fireless and at the same time closing the gas cock.

TO LIGHT OVEN BURNER

Open oven door. Push handle, which is below the oven door all the way to the left.

Turn on gas. After a second or two apply a lighted match to opening in plate just inside oven door.

TO CLOSE OVEN DAMPER

Push handle all the way to the right. This will shut off gas and close damper at the same time. **NEVER BURN THE GAS WITH DAMPER PARTLY CLOSED.**

RANGES NOT EQUIPPED WITH HOODS

The size of the No. 30 ovens is small enough to make them practical both as baking and boiling units, and they are equipped with special fixtures to make them most easily operated for either process.

WHEN THE No. 30 OVEN IS USED FOR BOILING OR STEWING

Remove the oven rack. Place the open grate in the baffle plate and proceed as per directions for hood in schedule, pp. 8-9. The small sized oven will, if operated in this manner, produce the same results as a top burner hood.

In reality, by placing a grate in the baffle plate, a top burner is obtained, through the especially designed oven burner.

To Have Your Chambers Range Work Properly

See that all parts are in place and in working order. Gas connection should be made with three-quarter inch pipe. A smaller size is not good practice.

See that dampers properly open and close with the movement of oven damper lever. This applies both to bottom and back oven damper.

Work hood up and down, and see that it catches before closing when gas is on.

Adjust the burners so that the flame from each orifice shows a clear blue cone about one-half inch high and without a yellow tip. Red flashes in the flame are caused by dust in the air and do not indicate faulty adjustment. The yellow color which causes soot to collect on utensils is caused by lack of air. A blue flame which pops back into the mixer or that blows away from the burner is caused by too much air.

Faults of combustion and also the correct adjustment are illustrated in the natural size diagram on the opposite page, and the method of making the adjustment on the page following.

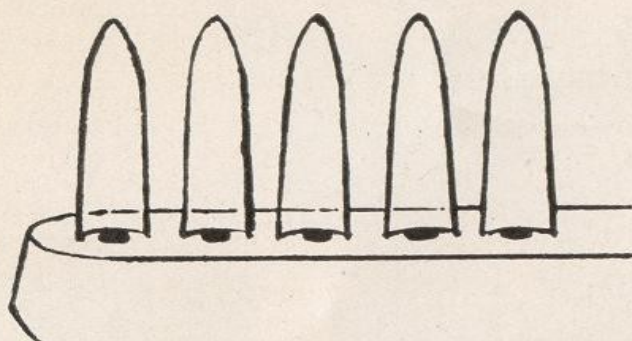
Chambers ranges have been built both with special cap mixer and with the standard Bell mixer. For this reason, on page 14 we give mode of adjusting both these mixers.

Study flames on opposite page, then see directions for adjusting gas and air on page 14. The adjustment of your gas is an essential to perfect operation.

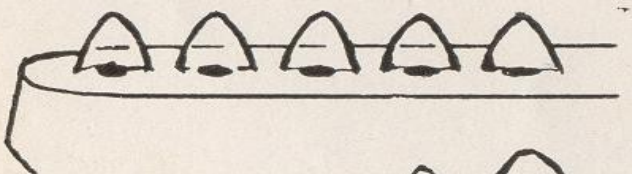
**THIS ADJUSTMENT APPLIES TO NATURAL OR
MANUFACTURED GAS.**

**FOR BLAU GAS ADJUST THE FLAME ABOUT
THREE-EIGHTHS OF AN INCH HIGH.**

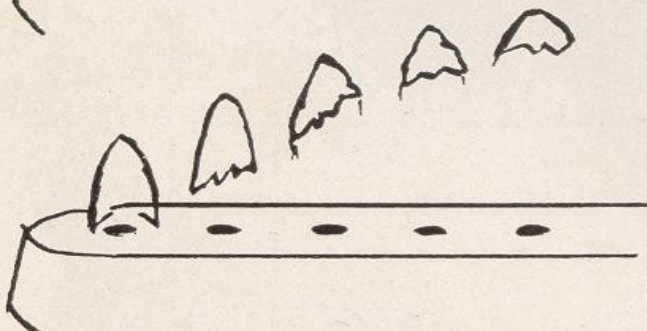
Read General Practice Rules, Pages 4 and 5.



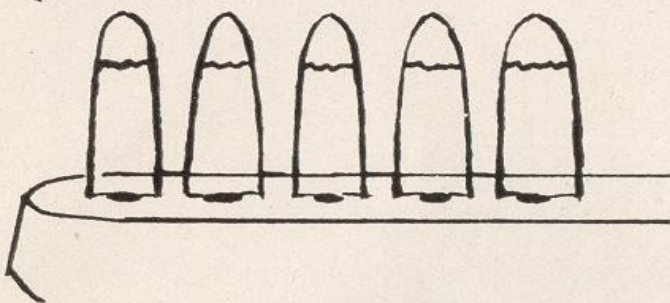
Blue Flame
Too Much
Gas



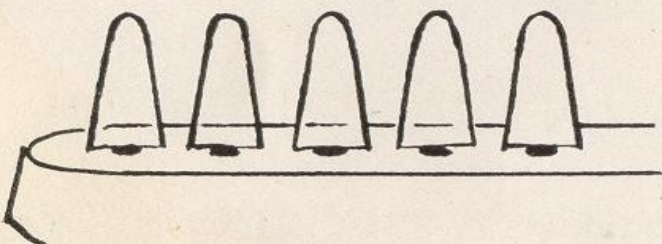
Blue Flame
Not Enough
Gas



Blue Flame
Too Much
Air

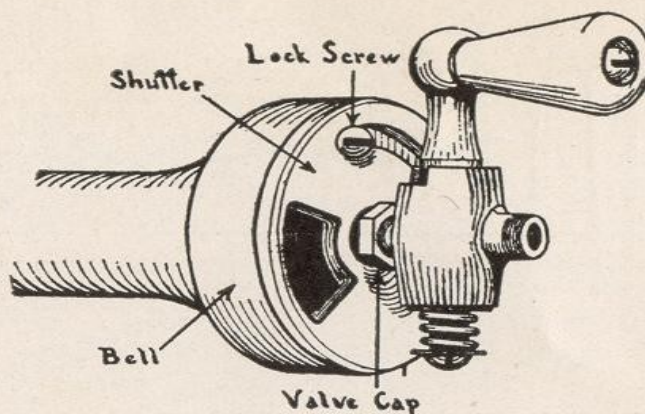


Yellow Tip
Not Enough
Air



Clear Blue
Cone
Perfect Flame
 $\frac{1}{2}$ Inch High

Mixer Adjustment



THE BELL MIXER

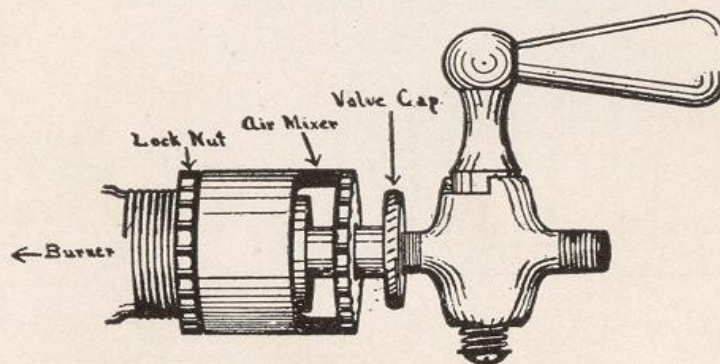
To reduce flow of gas, turn the valve cap to the left.

To increase flow of gas, turn the valve cap to the right.

To admit more air, open screw on shutter and turn disc so that more opening is clear. Then tighten screw to hold air adjustment in correct position.

To cut down air, open screw and turn shutter disc to left, closing the opening in face of burner.

When proper adjustment is obtained, set screw tight and this adjustment will be held.



THE SCREW CAP MIXER

To reduce the flow of gas, turn the valve cap to the left.

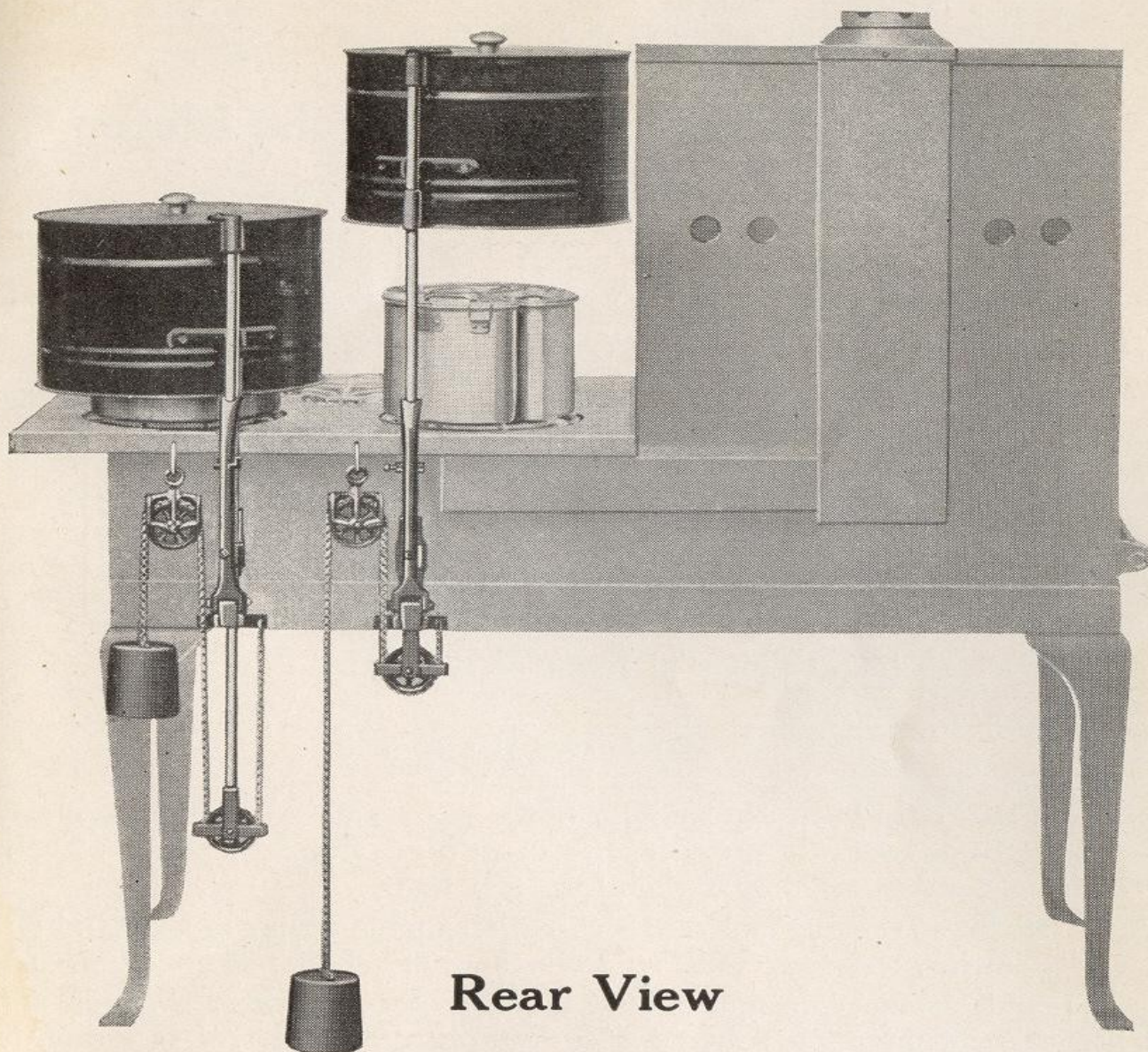
To increase flow of gas, turn the valve cap to the right.

To admit more air, turn the mixer to the left.

To admit less air, turn the mixer to the right.

When the mixer is properly adjusted it is held firmly in place so that it cannot be accidentally disturbed by turning the lock nut against it.

How to Adjust Hood Mechanism



Rear View

Showing Correct Position of Hood, Raised and Lowered

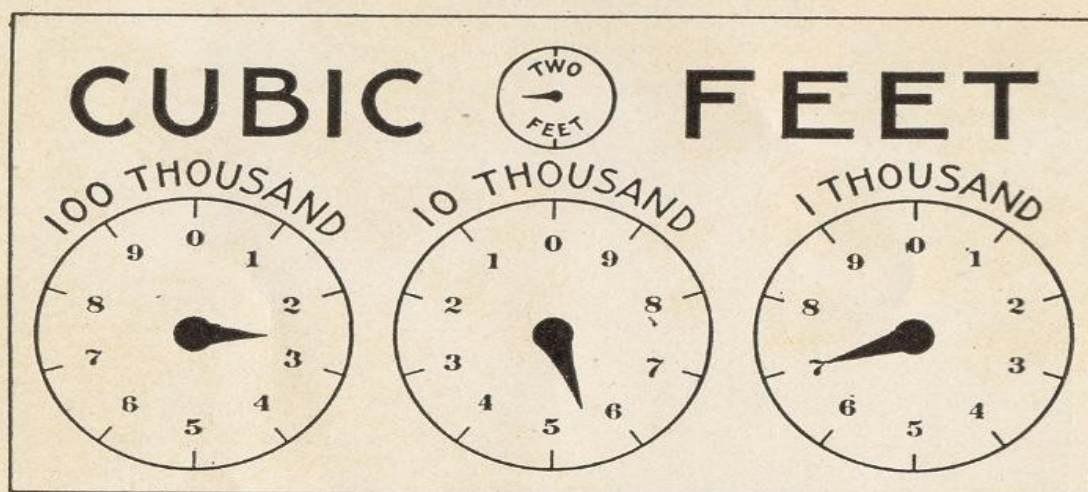
The cut also shows correct position of hood rod, position of pulley, chain and weight.

The automatic hood stop should be in line with the hood release rod, which is found in burner box, leading from valve operating hood burner.

If hood does not seat properly on cooking top, loosen screw on top hood casting, seat hood firmly and tighten screw in slotted hole at top. In this way the hood will be held at the correct angle to seat on top properly.

How to Measure the ECONOMY

You Can Know By Reading the Meter



(This dial reads 25,700 feet.)

Instructions

The hands turn alternately to the right and left and pass clear round to register the number of feet printed above the dial. Each division on the *last* dial is therefore 100 feet.

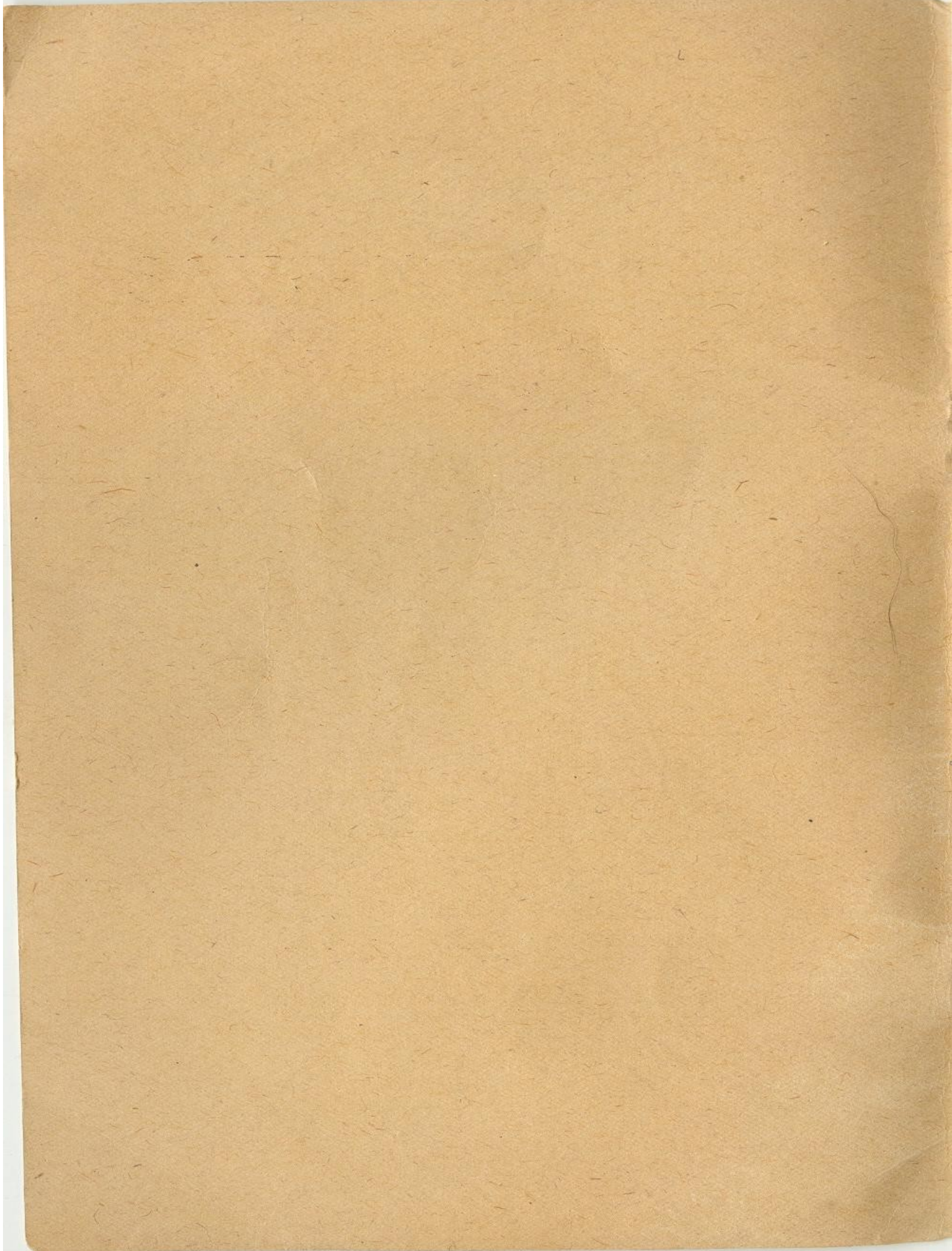
Begin at the left and read the *smaller* number next to the hand on each dial in succession and you have the number of feet in *hundreds*.

This is the consumption since the meter was set. To get the month's consumption subtract the reading of the first of last month from the reading of the first of the present month.

Try this with your Chambers range. See how much gas is saved in each cooking process.

Not only will there be interest in your decreased gas bills, but it is interesting to see the range operate, when the dials on your meter cease to turn.

When it is considered that Chambers ranges are operated by one-third to one-half as much gas, and **REQUIRE NO LONGER TO COOK THAN THE ORDINARY GAS RANGE**, it is easy to understand just how much saving there is in the use of this economical appliance.



SAVE FOOD
SAVE FUEL
SAVE TIME
SAVE MONEY



The Sign of an Organized Kitchen